

OIPE

6

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/853,753

DATE: 12/17/2001

TIME: 15:04:49

Input Set : A:\ES.txt

Output Set: N:\CRF3\12172001\I853753.raw

ENTERED

3 <110> APPLICANT: Bech-Hansen, Torben
5 <120> TITLE OF INVENTION: GPI-Anchored Small Leucine-Rich Proteoglycan Gene NYX
7 <130> FILE REFERENCE: 45499-2
9 <140> CURRENT APPLICATION NUMBER: US 09/853,753
C--> 10 <141> CURRENT FILING DATE: 2001-05-17
12 <150> PRIOR APPLICATION NUMBER: CA 2,306,241
13 <151> PRIOR FILING DATE: 2000-05-12
15 <160> NUMBER OF SEQ ID NOS: 14
17 <170> SOFTWARE: PatentIn version 3.1
19 <210> SEQ ID NO: 1
20 <211> LENGTH: 2297
21 <212> TYPE: DNA
22 <213> ORGANISM: Mus sp.
24 <300> PUBLICATION INFORMATION:
25 <301> AUTHORS: Bech-Hansen NT et al.
26 <302> TITLE: Mutations in NYX, encoding the leucine-rich proteoglycan nyctalopin,
27 cause X-linked complete congenital stationary night blindness
28 <303> JOURNAL: Nature Genetics
29 <304> VOLUME: 26
30 <305> ISSUE: 3
31 <306> PAGES: 319-323
32 <307> DATE: 2000-11-01
33 <308> DATABASE ACCESSION NO: GenBank / AF254868
34 <309> DATABASE ENTRY DATE: 2000-12-23
36 <400> SEQUENCE: 1
37 ggctgagggg gtggaggggg acctcagagg agcaggacca gggagactcc caggacggta 60
39 ggggtccac ggctgggtgg tcctaagcca ctgggtggat gaaaggccga gggatgttgg 120
41 tcctgcttct gcatgcggtg gtccctcgcc tgccacagcg ctgggcccgtg ggggcctgcg 180
43 cccgcgcttg tcccgcggcc tgcgcctgca gcacctgtga gcgcggctgc tcggtgcgct 240
45 gcgaccgcgc gggcctcctg cgggtgccgg ccgagctccc gtgcgaggcg gtctccatcg 300
47 acctggaccg gaacggcctg cgttccctgg gcgagcgagc cttcggcacg ctgccgtcct 360
49 tgcgcgcct gtcgctgcgc cacaacaacc tgtccttcat cacgcccggc gccttcaagg 420
51 gcctgccgcg cctggctgag ctgcgcctgg cgcacaacgg cgacctgcgc tacctgcacg 480
53 cgcgcacct cgcggcgctc agccgcctgc gccgcctaga cctagcagcc tgccgcctct 540
55 tcagcgtgcc cgagcgccct ctggccgaac tgccggccct gcgcgaactc gccgccttcg 600
57 acaacctgtt ccgccgcgtg ccgggcgcgc tgcgcggcct ggccaacctg acgcacgcgc 660
59 acctggagcg cggccgcgcat gaggcgggtg cctccagctc gctgcagggc ctgcgcggcc 720
61 tgcgctcgct cagcctgcag gccaaaccgc tccgtgccgt gcaagctggc gccttcgggg 780
63 actgtggcgt cctggagcat ctgctgctca acgacaacct gctggccgag ctcccgcccg 840
65 acgccttccg cggcctgcgg cgccctgcga cgctcaacct ggggtggcaac gcgctggacc 900
67 gcgtggcgcg cgccctggtc gctgacctgg ccgagctcga gctgctctac ctggaccgca 960
69 acagcatcgc cttcgtggag gagggcgctc tccagaacct ctcgggctct ctcgcgctgc 1020
71 acctcaacgg caaccgcctc accgtgctcg cctgggtcgc cttccagccc ggcttcttcc 1080
73 tgggcccgcct cttcctcttc cgcaaccggt ggtgctgcga ctgccgtctg gagggtgta 1140
75 gggactggat ggagggctcc ggacgtgtca ccgacgtgcc gtgcgcctcc ccgggctccg 1200
77 tggccggcct ggacctcagc cagggtgacct tcgggcgctc ctccgatggc ctctgtgtgg 1260
79 accccgagga gctgaacctc accacgtcca gtccaggccc gtccccagaa ccagcggcca 1320

RAW SEQUENCE LISTING

DATE: 12/17/2001

PATENT APPLICATION: US/09/853,753

TIME: 15:04:49

Input Set : A:\ES.txt

Output Set: N:\CRF3\12172001\I853753.raw

```

81 ccaccgtgag caggttcagc agcctcctct ccaagctgct ggccccgagg gtccccggtgg 1380
83 aggaggcggc caacaccact ggggggctgg ccaacgcctc cctgtccgac agcctctcct 1440
85 cccgtgggggt gggaggcgcg ggccggcagc cctggtttct cctcgctct tgtctcctgc 1500
87 ccagcgtggc ccagcacgtg gtgtttggcc tgcagatgga ctgacctggc cagagggggg 1560
89 aaagtgttgc taactgggct tgagtgtgtt tgtggttaagg ggagaggagc cggaatggag 1620
91 ggcagaggtg aaaatcccag tggagggtgg aaggaaccgt ttgcctccag agatggcccc 1680
93 agggagaaca cagggacgtg ccaactcgagg gggaggatgg tatggatttc tgcttttgtc 1740
95 acacgggcat ccattggaaa agagaagcaa gaatgaacgt gggccctcgg gtgggaagac 1800
97 taggaatcgg aagcttctag ggcttcacat cccttcccct cccctcccct tcccctcatc 1860
99 ttccaggcaa cagtgcctgc aaggcctgaa ttagagagac ttccattggc taagtagtta 1920
101 agagccgtcc catttctcct ggcgggggtaa cccattacac cgaagtcctt tgttttctac 1980
103 cacaatcctc ctctcctct ccaggggcct ggaaacacta ggattcagga aggtaggcag 2040
105 gacgtgagag aagggagatg ggagagagat ttaagacaaa ggggtggcggg ggttcctggg 2100
107 gtctgagatg tgttaggagg cgtttaaaac aaagatccag ttcatttact ccacagttat 2160
109 tcccagggct ggccctagcc acaaaggaac tttagggcag ggtagggaaa aaaggggcag 2220
111 cagggggtgt gtttgtggac aaataaattt gtaaagtccg aggattaaaa aaaaaaaaag 2280
113 gttaaaccgg tttctct 2297
116 <210> SEQ ID NO: 2
117 <211> LENGTH: 481
118 <212> TYPE: PRT
119 <213> ORGANISM: Mus sp.
121 <400> SEQUENCE: 2
123 Met Lys Gly Arg Gly Met Leu Val Leu Leu Leu His Ala Val Val Leu
124 1 5 10 15
127 Gly Leu Pro Ser Ala Trp Ala Val Gly Ala Cys Ala Arg Ala Cys Pro
128 20 25 30
131 Ala Ala Cys Ala Cys Ser Thr Val Glu Arg Gly Cys Ser Val Arg Cys
132 35 40 45
135 Asp Arg Ala Gly Leu Leu Arg Val Pro Ala Glu Leu Pro Cys Glu Ala
136 50 55 60
139 Val Ser Ile Asp Leu Asp Arg Asn Gly Leu Arg Phe Leu Gly Glu Arg
140 65 70 75 80
143 Ala Phe Gly Thr Leu Pro Ser Leu Arg Arg Leu Ser Leu Arg His Asn
144 85 90 95
147 Asn Leu Ser Phe Ile Thr Pro Gly Ala Phe Lys Gly Leu Pro Arg Leu
148 100 105 110
151 Ala Glu Leu Arg Leu Ala His Asn Gly Asp Leu Arg Tyr Leu His Ala
152 115 120 125
155 Arg Thr Phe Ala Ala Leu Ser Arg Leu Arg Arg Leu Asp Leu Ala Ala
156 130 135 140
159 Cys Arg Leu Phe Ser Val Pro Glu Arg Leu Leu Ala Glu Leu Pro Ala
160 145 150 155 160
163 Leu Arg Glu Leu Ala Ala Phe Asp Asn Leu Phe Arg Arg Val Pro Gly
164 165 170 175
167 Ala Leu Arg Gly Leu Ala Asn Leu Thr His Ala His Leu Glu Arg Gly
168 180 185 190
171 Arg Ile Glu Ala Val Ala Ser Ser Ser Leu Gln Gly Leu Arg Arg Leu
172 195 200 205
175 Arg Ser Leu Ser Leu Gln Ala Asn Arg Val Arg Ala Val His Ala Gly

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/853,753

DATE: 12/17/2001

TIME: 15:04:49

Input Set : A:\ES.txt

Output Set: N:\CRF3\12172001\I853753.raw

```

176      210      215      220
179 Ala Phe Gly Asp Cys Gly Val Leu Glu His Leu Leu Leu Asn Asp Asn
180 225      230      235      240
183 Leu Leu Ala Glu Leu Pro Ala Asp Ala Phe Arg Gly Leu Arg Arg Leu
184      245      250      255
187 Arg Thr Leu Asn Leu Gly Gly Asn Ala Leu Asp Arg Val Ala Arg Ala
188      260      265      270
191 Trp Phe Ala Asp Leu Ala Glu Leu Glu Leu Leu Tyr Leu Asp Arg Asn
192      275      280      285
195 Ser Ile Ala Phe Val Glu Glu Gly Ala Phe Gln Asn Leu Ser Gly Leu
196      290      295      300
199 Leu Ala Leu His Leu Asn Gly Asn Arg Leu Thr Val Leu Ala Trp Val
200 305      310      315      320
203 Ala Phe Gln Pro Gly Phe Phe Leu Gly Arg Leu Phe Leu Phe Arg Asn
204      325      330      335
207 Pro Trp Cys Cys Asp Cys Arg Leu Glu Trp Leu Arg Asp Trp Met Glu
208      340      345      350
211 Gly Ser Gly Arg Val Thr Asp Val Pro Cys Ala Ser Pro Gly Ser Val
212      355      360      365
215 Ala Gly Leu Asp Leu Ser Gln Val Thr Phe Gly Arg Ser Ser Asp Gly
216      370      375      380
219 Leu Cys Val Asp Pro Glu Glu Leu Asn Leu Thr Thr Ser Ser Pro Gly
220 385      390      395      400
223 Pro Ser Pro Glu Pro Ala Ala Thr Thr Val Ser Arg Phe Ser Ser Leu
224      405      410      415
227 Leu Ser Lys Leu Leu Ala Pro Arg Val Pro Val Glu Glu Ala Ala Asn
228      420      425      430
231 Thr Thr Gly Gly Leu Ala Asn Ala Ser Leu Ser Asp Ser Leu Ser Ser
232      435      440      445
235 Arg Gly Val Gly Gly Ala Gly Arg Gln Pro Trp Phe Leu Leu Ala Ser
236      450      455      460
239 Cys Leu Leu Pro Ser Val Ala Gln His Val Val Phe Gly Leu Gln Met
240 465      470      475      480
243 Asp
247 <210> SEQ ID NO: 3
248 <211> LENGTH: 20
249 <212> TYPE: DNA
250 <213> ORGANISM: Artificial Sequence
252 <220> FEATURE:
253 <223> OTHER INFORMATION: PCR primer
255 <220> FEATURE:
256 <221> NAME/KEY: misc_feature
257 <222> LOCATION: (1)..(20)
258 <223> OTHER INFORMATION: forward primer for polymorphism 506B13CA1 (DXS10042)
261 <400> SEQUENCE: 3
262 atcacagtgc cctgcctaaa
265 <210> SEQ ID NO: 4
266 <211> LENGTH: 20
267 <212> TYPE: DNA

```

20

RAW SEQUENCE LISTING

DATE: 12/17/2001

PATENT APPLICATION: US/09/853,753

TIME: 15:04:49

Input Set : A:\ES.txt

Output Set: N:\CRF3\12172001\I853753.raw

```

268 <213> ORGANISM: Artificial Sequence
270 <220> FEATURE:
271 <223> OTHER INFORMATION: PCR primer
273 <220> FEATURE:
274 <221> NAME/KEY: misc_feature
275 <222> LOCATION: (1)..(20)
276 <223> OTHER INFORMATION: reverse primer for polymorphism 506B13CA (DXS10042)
279 <400> SEQUENCE: 4
280 tcccaaagtg ctgggattac 20
283 <210> SEQ ID NO: 5
284 <211> LENGTH: 21
285 <212> TYPE: DNA
286 <213> ORGANISM: Artificial Sequence
288 <220> FEATURE:
289 <223> OTHER INFORMATION: PCR primer
291 <220> FEATURE:
292 <221> NAME/KEY: misc_feature
293 <222> LOCATION: (1)..(21)
294 <223> OTHER INFORMATION: forward primer for polymorphism 200L4CA1 (DXS10044)
297 <400> SEQUENCE: 5
298 gaacagcaaa ccaaatccaa a 21
301 <210> SEQ ID NO: 6
302 <211> LENGTH: 20
303 <212> TYPE: DNA
304 <213> ORGANISM: Artificial Sequence
306 <220> FEATURE:
307 <223> OTHER INFORMATION: PCR primer
309 <220> FEATURE:
310 <221> NAME/KEY: misc_feature
311 <222> LOCATION: (1)..(20)
312 <223> OTHER INFORMATION: reverse primer for polymorphism 200L4CA1 (DXS10044)
315 <400> SEQUENCE: 6
316 ggcctatggt aatgcctcct 20
319 <210> SEQ ID NO: 7
320 <211> LENGTH: 20
321 <212> TYPE: DNA
322 <213> ORGANISM: Artificial Sequence
324 <220> FEATURE:
325 <223> OTHER INFORMATION: PCR primer
327 <220> FEATURE:
328 <221> NAME/KEY: misc_feature
329 <222> LOCATION: (1)..(20)
330 <223> OTHER INFORMATION: forward primer for polymorphism 169I5CA2 (DXS10045)
333 <400> SEQUENCE: 7
334 aaacttagct gggcatgctg 20
337 <210> SEQ ID NO: 8
338 <211> LENGTH: 21
339 <212> TYPE: DNA
340 <213> ORGANISM: Artificial Sequence

```

RAW SEQUENCE LISTING

DATE: 12/17/2001

PATENT APPLICATION: US/09/853,753

TIME: 15:04:49

Input Set : A:\ES.txt

Output Set: N:\CRF3\12172001\I853753.raw

```

342 <220> FEATURE:
343 <223> OTHER INFORMATION: PCR primer
345 <220> FEATURE:
346 <221> NAME/KEY: misc_feature
347 <222> LOCATION: (1)..(21)
348 <223> OTHER INFORMATION: reverse primer for polymorphism 169I5CA2 (DXS10045)
351 <400> SEQUENCE: 8
352 gctgggacta catacagcac a 21
355 <210> SEQ ID NO: 9
356 <211> LENGTH: 21
357 <212> TYPE: DNA
358 <213> ORGANISM: Artificial Sequence
360 <220> FEATURE:
361 <223> OTHER INFORMATION: PCR primer
363 <220> FEATURE:
364 <221> NAME/KEY: misc_feature
365 <222> LOCATION: (1)..(21)
366 <223> OTHER INFORMATION: forward primer for NYX expression
369 <400> SEQUENCE: 9
370 aggggagtggga ggggacctca g 21
373 <210> SEQ ID NO: 10
374 <211> LENGTH: 18
375 <212> TYPE: DNA
376 <213> ORGANISM: Artificial Sequence
378 <220> FEATURE:
379 <223> OTHER INFORMATION: PCR primer
381 <220> FEATURE:
382 <221> NAME/KEY: misc_feature
383 <222> LOCATION: (1)..(18)
384 <223> OTHER INFORMATION: reverse primer for NYX expression
387 <400> SEQUENCE: 10
388 acggcacgga cgcggttg 18
391 <210> SEQ ID NO: 11
392 <211> LENGTH: 20
393 <212> TYPE: DNA
394 <213> ORGANISM: Artificial Sequence
396 <220> FEATURE:
397 <223> OTHER INFORMATION: PCR primer
399 <220> FEATURE:
400 <221> NAME/KEY: misc_feature
401 <222> LOCATION: (1)..(20)
402 <223> OTHER INFORMATION: forward primer for W350X mutation
405 <400> SEQUENCE: 11
406 gatttttcct ggggtgacct 20
409 <210> SEQ ID NO: 12
410 <211> LENGTH: 19
411 <212> TYPE: DNA
412 <213> ORGANISM: Artificial Sequence
414 <220> FEATURE:

```

VERIFICATION SUMMARY

DATE: 12/17/2001

PATENT APPLICATION: US/09/853,753

TIME: 15:04:50

Input Set : A:\ES.txt

Output Set: N:\CRF3\12172001\I853753.raw

L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date